UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,594	10/20/2003	Takuya Noda	1359.1085	2548

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EXAMINER
SIEDLER, DOROTHY S

ART UNIT	PAPER NUMBER
2626	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

	Application No.	Applicant(s)
Office Action Summary	10/687,594	NODA ET AL.
	Examiner	Art Unit	
	Dorothy Sarah Siedler	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 October 2003*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10-20-03* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☒ All   b)☐ Some * c)☐ None of:

   1.☒ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date *12-23-03, 10-13-06*.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This is the initial response to the office action filled October 20, 2003. Claims 1-10 are

pending and are considered below.

Claim Objections

Where applicant acts as his or her own lexicographer to specifically define a term

of a claim contrary to its ordinary meaning, the written description must clearly redefine

the claim term and set forth the uncommon definition so as to put one reasonably skilled

in the art on notice that the applicant intended to so redefine that claim term. *Process*

Control Corp. v. HydReclaim Corp., 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed.

Cir. 1999). The term "voice recognizing" in claim 1 is used by the claim to mean,

"recognizing a voice command", while the accepted meaning is "recognizing the identity

of the voice." The term is indefinite because the specification does not clearly redefine

the term. A more appropriate term would be "speech recognition", which is the

recognition of spoken words, including voice commands.

Claim 3 is objected to because of the following informalities: Claim 3 recites the

term "S/N of a user voice", however no clear definition of "S/N" is provided. Therefore

the examiner interprets "S/N" as a signal to noise ratio for a voice signal, this

interpretation used throughout the remainder of this application. Appropriate correction

is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1,5,9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by

Storm ("Intelligent Barge-in in Conversational Systems" ICSLP 2000).

As per claim 1,9 and 10, *Storm* discloses a voice interactive system, comprising: an

acoustic processing part for performing acoustic signal processing with respect to an

input voice signal (page 652, section 1. Introduction, last paragraph, *a barge-in is*

detected based on short term acoustic measurements); a voice recognizing part for

recognizing contents of a voice contained in the voice signal after being subjected to the

acoustic signal processing (page 652, section 1. Introduction, last paragraph,

verification of the barge-in is performed using the confidence measure from the speech

recognizer); a voice interacting part for transmitting information to a user through a

voice output or a combination of the voice output and another information transmission

unit based on the contents of the voice (page 652, Abstract and section 1. Introduction,

the system disclosed resolves barge-in problems in conversational systems, and

specifically attempts to determine when it is appropriate to enable the user to barge-in

during dialogue states. Therefore it is inherent that the system transmits information to

the user through voice output or a combination of voice output and another information

transmission unit); and a barge-in control part having a barge-in function of suspending

transmission of information by an input or an output of the acoustic processing part, or

an input signal from an external input in the course of the transmission of information,

wherein the barge-in control part detects one or more feature values from the input or

the output of the acoustic processing part, or the input signal from the external input,

and determines whether or not the barge-in function is set to be effective based on the

one or more feature values (page 653, section 3. Verification, *the detection of a barge-*

in, which determines if the system output is turned off or not, is detected by comparing

the recognition confidence score to a threshold).

As per claim 5, **Strom** discloses the voice interactive system according to claim 1,

wherein the voice interacting part notifies the user of an effective/non-effective state of

the barge-in function using at least one of a voice and another information transmission

unit (page 654, section 5. Declining Barge-in, *the system uses pre-emphasis and*

increasing of the loudness of the system output to indicate to the user that a barge-in

was not allowed (non-effective)).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 2-4 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable

over **Strom** in view of **Stifelman** (7,143,039).

As per claim 2, **Strom** discloses the voice interactive system according to claim 1,

however **Strom** does not explicitly state wherein at least one of the one or more feature

values is a noise feature value, and the barge-in function is set to be non-effective in a

case where the noise feature value exceeds a predetermined threshold value. However,

Storm does disclose that verification is performed on an input signal to determine if the

audio is a user utterance, background noise or non-speech sound such as a cough

(page 653, section 3. Verification, first paragraph). In addition, **Stifelman** discloses

detecting noise and comparing it to a predetermined threshold (column 24 lines 34-37).

When the noise exceeds the predetermined threshold value a fall-back flag is set, which

indicates voice recognition errors. The system then tries to correct the recognition error,

in order to complete the barge-in. **Strom** and **Stifelman** both disclose systems to

prevent falsely triggered barge-ins.

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to use a noise feature value, and have the barge-in function set to be

non-effective in a case where the noise feature value exceeds a predetermined

threshold value in *Strom*, since it would enable the system to distinguish between

noise, or other audible signals, and a user utterance, thus preventing the system from

needlessly interrupting the delivery of content, as indicated in *Stifelman* (column 19

lines 26-29 and column 23 lines 24-27).

As per claim 3, *Strom* discloses the voice interactive system according to claim 1,

however *Strom* does not explicitly state wherein at least one of the one or more feature

values is a S/N (signal-to-noise ratio) of a user voice, and the barge-in function is set to

be effective in a case where the S/N exceeds a predetermined threshold value.

However, *Storm* does disclose that verification is performed on an input signal to

determine if the audio is a user utterance, background noise or non-speech sound such

as a cough (page 653, section 3. Verification, first paragraph). In addition, *Stifelman*

discloses detecting noise and comparing it to a predetermined threshold (column 24

lines 34-37). When the noise exceeds the predetermined threshold value a fall-back flag

is set, which indicates voice recognition errors. The system then tries to correct the

recognition error, in order to complete the barge-in. *Strom* and *Stifelman* both disclose

systems to prevent falsely triggered barge-ins.

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to use a S/N (signal-to-noise ratio) feature value, and have the barge-in

function set to be effective in a case where the S/N feature value exceeds a

predetermined threshold value in **Strom**, since it would enable the system to distinguish

between noise or other audible signals and a user voice input, and prevent the system

from needlessly interrupting the delivery of content, as indicated in **Stifelman** (column

19 lines 26-29 and column 23 lines 24-27).

As per claim 4, **Strom** discloses the voice interactive system according to claim 1,

however **Strom** does not explicitly state wherein at least one of the one or more feature

values is positional information of the user detected from the input signal from the

external input, an environment evaluation value of a position of the user is calculated

based on the positional information and environmental information, and the barge-in

function is set to be non-effective in the case where the environment evaluation value

exceeds a predetermined value. **Stifelman** discloses that a fall-back flag is set when

information is provided from the audio signal that indicates a low match environment is

present (column 24 lines 32-34). A users location, which can be easily determined

through GPS, provides an indication of their location, and thus environment. Many

common public areas are very noisy, each with a specific type of common background

noise.

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to have one or more feature values as positional information of the user

detected from the input signal from the external input, an environment evaluation value of a position of the user is calculated based on the positional information and environmental information, and the barge-in function is set to be non-effective in the case where the environment evaluation value exceeds a predetermined value in *Strom*, since it would enable the system to distinguish between noise, or other environment specific audible signals, and a user voice input, and prevent the system from needlessly interrupting the delivery of content, as indicated in *Stifelman* (column 19 lines 26-29 and column 23 lines 24-27).

As per claims 6,7 and 8, *Strom* in view of *Stifelman* disclose the voice interactive system according to claims 2,3 and 4, and *Storm* further discloses wherein the voice interacting part notifies the user of an effective/non-effective state of the barge-in function using at least one of a voice and another information transmission unit (page 654, section 5. Declining Barge-in, *the system uses pre-emphasis and increasing of the loudness of the system output to indicate to the user that a barge-in was not allowed (non-effective)).*
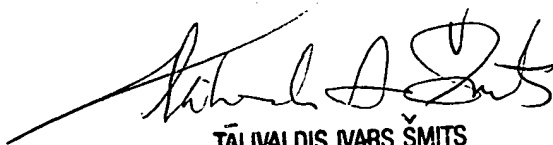
Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please see PTO-892 form.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dorothy Sarah Siedler whose telephone number is 571-270-1067. The examiner can normally be reached on Mon-Thur 9:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on 571-272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DSS

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